

(No Model.)

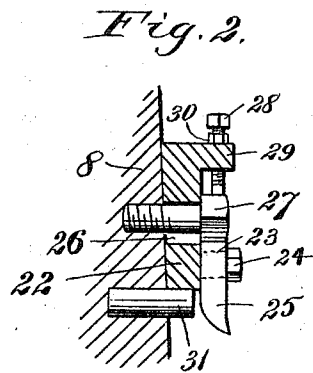
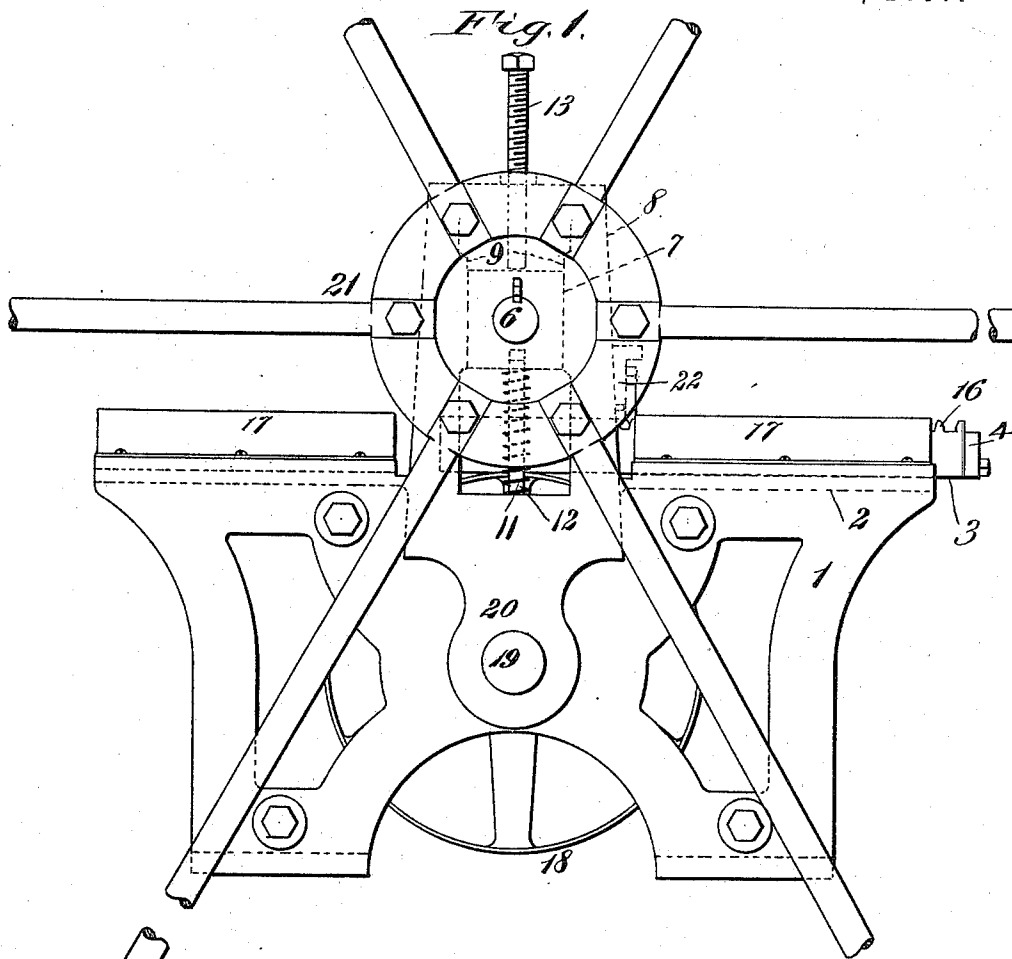
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B. F. CURTIS & D. E. TITSWORTH.

MACHINE FOR MAKING STEREOTYPES.

No. 579,044.

Patented Mar. 16, 1897.



WITNESSES:

H. Graham,
E. L. Todd

INVENTORS

B. F. Curtis
BY *and D. E. Titsworth*
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ATTORNEYS.

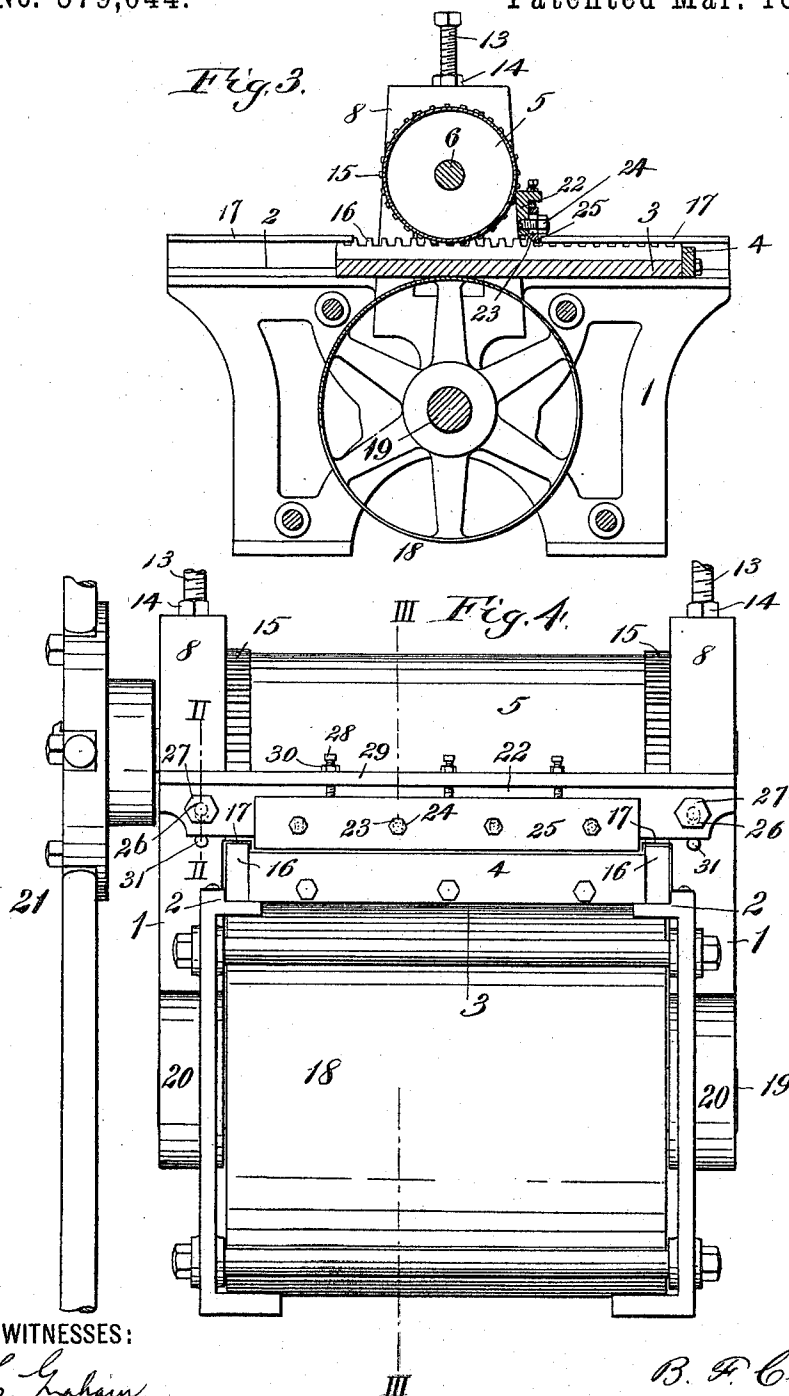
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UNITED STATES PATENT OFFICE.

BENJAMIN F. CURTIS, OF BROOKLYN, NEW YORK, AND DAVID E. TITSWORTH, OF PLAINFIELD, NEW JERSEY, ASSIGNORS TO THE POTTER PRINTING PRESS COMPANY, OF PLAINFIELD, NEW JERSEY.

MACHINE FOR MAKING STEREOTYPES.

SPECIFICATION forming part of Letters Patent No. 579,044, dated March 16, 1897.

Application filed June 5, 1895. Serial No. 551,774. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. CURTIS, of Brooklyn, county of Kings, State of New York, and DAVID E. TITSWORTH, of Plainfield, Union county, State of New Jersey, citizens of the United States of America, have invented certain new and useful Improvements in Machines for Making Stereotypes, of which the following is a specification.

10 The invention relates to that class of machines employed in the making of stereotypes, and has for its principal object to provide a mechanism whereby the stereotype-matrix may be formed and the stereotype cut or
15 planed on its bottom to the height or thickness desired, whether for a type-high plate or a shell to be used on a block.

The invention consists in a roll, a bed beneath the same adapted to carry a form of
20 type, so that a paper or other sheet may be pressed upon the type by said roll to form a matrix and adapted also to carry a stereotype, means for actuating the bed and roll whereby all parts of the form are brought
25 beneath the roll and have the matrix pressed upon them thereby, and a cutter mounted near the bed and adapted to be raised farther from the bed when the matrix is to be formed, as above described, and to be lowered to a point where its edge is type-high or
30 other desired distance above the bed when the stereotype is to be planed, all combined as hereinafter set forth or in any other equivalent manner.

35 The invention further consists in the parts and combinations thereof hereinafter set forth and claimed.

In order to make our invention more clearly understood, we have shown in the accompanying
40 drawings means for carrying it into practical effect without limiting our improvements in their useful applications to the particular construction which for the sake of illustration we have delineated.

45 In said drawings, Figure 1 is a side elevation of a machine for use in the making of stereotypes embodying our improvements.

Fig. 2 is a sectional view, on a larger scale, on line II, Fig. 4. Fig. 3 is a sectional view on line III, Fig. 4. Fig. 4 is a front elevation of 50 the machine.

Referring to the drawings, 1 is a supporting-frame for the operative parts of the machine, adapted to be mounted upon legs or any suitable base. (Not shown.) This frame 55 is provided with longitudinal and preferably horizontal guideways 2, one at each side of the machine, in which fits and is adapted to reciprocate a bed 3. This bed is adapted to carry a form of type or a stereotype, either 60 of which when so carried will be held between the side pieces of the bed and engaged and forced forward by the end piece 4.

5 is an impression-roll mounted on transverse shaft 6, the journals of which latter are 65 held in bearings 7 at the sides of the machine. Said bearings fit and are adapted to have a slight vertical movement for the purposes of adjustment of the roll toward or from the bed in brackets 8, formed with or attached to the 70 frame 1, at the sides of the latter, and having guides 9 for the bearings. The roll-bearings are pressed upward by springs 11, held in place upon pins 12, fixed in the bracket, and are adapted to be forced downward to bring 75 the roll to the proper distance from the bed by means of screws 13, fitted in the top portion of the brackets, engaging the upper sides of the bearings and provided with jam-nuts 14 for clamping them into position to which 80 they have been adjusted.

The roll 5 is caused to turn with the bed, so as to have the same surface speed as the latter, by means of gear-wheels 15, mounted at each side of the roll and meshing with 85 racks 16, formed on the side bars of the bed. These racks are covered by sheet-metal protectors 17, screwed upon the frame 1 parallel with the rack and overlapping the latter.

The preferred means for actuating the bed 90 and roll is by motive power applied to the shaft of the impression-roll, as, for instance, through a hand-wheel 21.

18 is a supporting antifriction-drum mount-

ed on a shaft 19, held in bearings 20, and beneath and sustaining the bed at the point where it receives the pressure of the roll 5, but other supporting means may be used for this purpose, or the guides 2 may suffice.

At the front side of the roll 5 and extending transversely of the machine above the bed is a bar 22, formed with vertical slots or openings 26, through which pass clamping-bolts 27, the ends of which are screwed into the brackets 8. By loosening the screws 27 and again tightening them the said bar may be raised or lowered for a short distance relative to the bed 3.

25 is a knife or cutter adapted to have a slight vertical adjustment upon the bar 22, as, for instance, by the aid of bolts 24, passing through slots 23 in the cutter and screwed at their inner ends in the bar, Fig. 3. In order to enable the cutter to be finely adjusted and to insure against its being forced upward out of position by the working strain, it is provided with stop-screws 28, which pass downward through a flange 29 of the cutter-bar and engage the top of the cutter, say, at three points. These stop-screws may be clamped in position by means of jam-nuts 30. The adjustment of the cutter upon its bar is not ordinarily required during the use of the machine, and ordinarily only when the cutter has been ground. The raising and lowering of the cutter-bar, carrying with it the cutter, is conveniently effected by hand, the bar being held by the bolts 27, as already described. When the cutter-bar is raised, the cutter is out of operative position, and in order to enable it to be readily and accurately brought back to its proper position for use we provide beneath the ends of the bar stops 31, conveniently consisting of pins fixed in the brackets 8.

The use of this machine in the making of stereotypes is as follows: The form of type from which the matrix is to be formed is placed on the bed 3, the latter being in its outermost position at the front of the machine, (to the right in Figs. 1 and 3.) At this time the bar 22, with its cutter, will be in its raised position, as indicated in dotted lines in Fig. 2. A sheet of the material in which the impression of the form is to be made is then placed upon the face of the type, and by means of the wheel 21 and the gearing described the bed is carried through the machine beneath the roll 5 and the desired matrix thereby formed in said sheet. The matrix is then removed, placed in a mold, and the stereotype cast in a well-known manner. The form having been removed from the bed 3, the cutter is lowered to its operative position, with its edge type-high from the surface of the bed, by merely loosening the bolts 27, permitting the cutter-bar to fall upon the stops 31, and then again tightening the bolts. The bed having been returned to its original position at the front of the machine, the

stereotype is placed upon it face downward and in engagement with the inner face of the cross-piece or rail 4. The bed is then moved inward by the power mechanism and caused to pass beneath the cutter, the edge of which latter will remove any superfluous metal from the bottom of the stereotype, making it exactly type-high or of the thickness of a form or of other desired thickness.

It may be convenient to use as a means of adjustment one or more sheets of paper or plates of other material beneath the stereotype, which virtually raises the surface of the bed 3.

What is claimed is—

1. In a machine for making stereotypes the combination of a roll, a bed movable beneath the same, adapted to carry a form or a stereotype, and geared with the roll, means for actuating the bed and roll, and a cutter mounted near the bed and adapted to be raised and lowered relative to the same, and means for holding the cutter in its raised and lowered position, substantially as set forth.

2. In a machine for making stereotypes the combination of a roll, a bed movable beneath and geared with the same, a roll beneath the bed and engaging the latter opposite the first roll, and a cutter mounted near the bed and adapted to be raised and lowered relatively to the same, and means for holding the cutter in its raised and lowered position, substantially as set forth.

3. In a machine for making stereotypes the combination of a roll, a bed movable beneath the same, means for actuating the bed and roll, a cutter adapted to be raised and lowered relative to the bed, stops for arresting it at the desired height above the bed, and means for holding it in its raised or in its lowered position, substantially as set forth.

4. In a machine for making stereotypes the combination of a roll, a bed movable beneath the same, means for actuating the bed and roll, a cutter-bar adapted to be raised and lowered relative to the bed, a cutter carried by and adjustable on said cutter-bar, stops for arresting said parts when the cutter is at the desired height above the bed, and means for holding the bar in its raised or in its lowered position, substantially as set forth.

5. In a machine for making stereotypes the combination of a roll, a bed movable beneath the same, supporting-brackets for the roll, means for actuating the bed and roll, a cutter-bar on said brackets and adapted to be raised or lowered relative to the bed, a cutter carried by the bar, stops on the brackets for arresting the bar and cutter when the latter is at the desired height above the bed, and means for holding the bar in the latter or in a raised position, substantially as set forth.

6. In a machine for making stereotypes the combination of a roll, a bed movable beneath the same, brackets at the sides of the bed, a

roll mounted in said brackets, means for actuating the bed and roll, a cutter-bar having its ends mounted on the brackets and carrying a cutter, stops for limiting the upward movement of the cutter above the bed and clamps for securing said ends to the brackets with the cutter in a raised or lowered position, substantially as set forth.

In witness whereof we have hereunto signed our names in the presence of two witnesses. 10

BENJAMIN F. CURTIS.
DAVID E. TITSWORTH.

Witnesses:

C. H. DUNHAM,
H. N. Low.